CLAIMS

What is claimed is:

1. A method for managing a construction project comprising:

generating a computerized simulation model for the construction project representing project materials in the construction project;

mapping the project materials represented in the computerized simulation model into constructible elements;

determining at least one work step for each constructible element; and

selecting at least one constructible element to create a work package comprising the at least one constructible element and the at least one work step for the at least one constructible element.

2. The method of claim 1, further comprising organizing the constructible elements into construction areas in the computerized simulation model.

3. The method of claim 1, further comprising organizing the constructible elements into construction crafts in the computerized simulation model.

4. The method of claim 1, further comprising organizing the constructible elements into systems for testing and turnover in the computerized simulation model.

5. The method of claim 1, further comprising prioritizing procurement of the constructible elements based on target installation dates of the constructible elements.

6. The method of claim 1, further comprising generating a visual display of the computerized simulation model.

7. The method of claim 1, further comprising generating an interactive three-dimensional graphical display of the computerized simulation model.

8. The method of claim 1, wherein selecting the at least one constructible element further comprises allowing a user to point-and-click on the at least one constructible element in a visual display of the computerized simulation model to select the at least one constructible element.

9. The method of claim 8, further comprising providing status information for the work package during creation of the work package.

10. The method of claim 9, wherein providing status information further comprises displaying in a visual display of the computerized simulation model work that has been completed on the construction project.

11. The method of claim 9, wherein providing status information further comprises displaying in a visual display of the computerized simulation model a time estimate for the work package.

12. The method of claim 9, wherein providing status information further comprises displaying in a visual display of the computerized simulation model a cost estimate for the work package.

13. The method of claim 1, wherein the computerized simulation model is an interactive three-dimensional computerized simulation model.

14. The method of claim 1, further comprising sequencing a plurality of work packages for release to work crews by selecting the work packages in a visual display of the computerized simulation model via a graphical user interface.

15. The method of claim 1, further comprising assigning the work package to a work crew by selecting the work packages in a visual display of the computerized simulation model via a graphical user interface.

16. The method of claim 1, further comprising:

accessing engineering data for the construction project in a database, wherein generating a computerized simulation model is based on the engineering data; and

accessing manufacturing data for the construction project in an other database, wherein mapping the project materials into constructible elements is based on the manufacturing data.

17. A system for managing a construction project comprising:

a project design module configured to generate a computerized simulation model of the construction project representing project materials in the construction project;

a mapping module configured to map the project materials represented in the computerized simulation model into constructible elements;

a task detailing module configured to determine at least one work step for each constructible element; and

a work packaging module configured to create a work package comprising at least one constructible element and the at least one work step for the at least one constructible element.

18. The system of claim 17, wherein the project design model comprises a craft organization module configured to organize the constructible elements into construction crafts in the computerized simulation model.

19. The system of claim 17, wherein the project design model comprises a construction area organization module configured to organize the constructible elements into construction areas in the computerized simulation model.

20. The system of claim 17, wherein the project design model comprises a system organization module configured to organize the constructible elements into systems for testing and turnover in the computerized simulation model.

21. The system of claim 17, further comprising a graphical user interface configured to allow a user to point-and-click on the at least one constructible element in a visual display of the computerized simulation model to select the at least one constructible element for the work package.

22. The system of claim 17, wherein the work packaging module is further configured to allow a user to point-and-click on the at least one constructible element in a visual

display of the computerized simulation model to select the at least one constructible element for the work package.

23. The system of claim 22, further comprising a status module configured to provide status information for the construction project in a visual display of the computerized simulation model during creation of the work package.

24. The system of claim 23, wherein the status information comprises a time estimate for the work package.

25. The system of claim 23, wherein the status information comprises a cost estimate for the work package.

26. The system of claim 17, wherein the system is further configured to generate a visual display of the computerized simulation model.

27. The system of claim 17, wherein the system is further configured to generate an interactive three-dimensional graphical display of the computerized simulation model.

28. The system of claim 17, wherein the computerized simulation model is an interactive three-dimensional computerized simulation model.

29. The system of claim 17, wherein the work packaging module further comprises a sequencing module configured to assign a plurality of work packages to work crews and to sequence the plurality of work packages for release to work crews.

30. The system of claim 29, wherein the work packaging module further comprises a reprioritization module configured to reprioritize the sequence of the work packages.

31. The system of claim 17, wherein the work packaging module further comprises a constraints analysis module configured to determine whether the work package is valid.

32. The system of claim 17, wherein the work packaging module further comprises a verification module configured to analyze resource constraints for the construction project to determine whether a work crew can execute the work package subject to the constraints.

33. The system of claim 17, wherein the work packaging module further comprises a converter module configured to convert data accessed from an external database into a common format for use in the matching module.

34. A computer program product for managing a construction project comprising computer program code for performing the steps of:

generating a computerized simulation model of the construction project, the computerized simulation model representing project materials in the construction project;

mapping the project materials represented in the computerized simulation model into constructible elements;

determining at least one work step for each constructible element; and

selecting at least one constructible element to create a work package comprising the at least one constructible element and the work steps for the at least one constructible element.

35. The computer program product of claim 34, further comprising computer program code to generate a visual display of the computerized simulation model.

36. The computer program product of claim 34, further comprising computer program code to generate an interactive three-dimensional graphical display of the computerized simulation model.

37. The computer program product of claim 34, wherein the computerized simulation model is an interactive three-dimensional computerized simulation model.

38. The computer program product of claim 34, further comprising computer program code to allow a user to point-and-click on the at least one constructible element in a visual display of the computerized simulation model to select the at least one constructible element.

39. A system for managing a construction project comprising:

means for generating a computerized simulation model of a construction project, the computerized simulation model representing project materials in the construction project;

means for mapping the project materials represented in the computerized simulation model into at least one constructible element;

means for determining at least one work step for each constructible element; and

means for creating a work package comprising the at least one constructible element and the work steps for the at least one constructible element.

40. The system recited in claim 39, further comprising:

means for generating a visual display of the computerized simulation model.